WASHINGTON STATE DEPARTMENT OF ECOLOGY

DETERMINATION OF NONSIGNIFICANCE

Description of proposal: The proposed project will cleanup metals and high pH contamination in groundwater downgradient of the Closed CKD Pile in Metaline Falls. The metals include arsenic, chromium, lead and manganese. Concentrations of pH, arsenic, lead, chromium, and manganese in the groundwater exceed MTCA cleanup levels. Treatment will occur through the construction of an in situ (in place) treatment system that will intercept contaminated groundwater from the Closed CKD Pile and treat it prior to discharge to Sullivan Creek. The groundwater treatment system consists of two primary components: a funnel-and-gate treatment system and a gravity drain that will be constructed under the southern portion of the Closed CKD Pile. Construction will occur in the approximately 4 acres between the Closed CKD Pile and Sullivan Creek.

Proponent: Lehigh Cement Company

Location of proposal, including street address if any: The proposed project site is in Metaline Falls, Pend Oreille County, Washington at approximately milepost 14.7 along State Route 31, in SE ¼ Sec. 21, T. 39N, R. 43E. The groundwater remediation system will be installed on property just north and east of the Closed CKD Pile, located between State Route 31 and Sullivan Creek. In addition, the gravity drain will be installed beneath the southern most portion of the Closed CKD Pile. Lehigh owns all of the land on which the proposed project will be constructed and operated.

Lead agency: Washington State Department of Ecology

The lead agency for this proposal has determined that it does not have a probable significant impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

☐ **There is no comment period for this DNS.**

☐ **This DNS is issued after using the optional DNS process in WAC 197-11-355. There is no further comment period on the DNS.**

☑ **This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for 14 days from the date below.**

Comments must be submitted by February 24, 2006.

Responsible official: Flora J. Goldstein
Position/title: Section Manager, Toxics Cleanup Program
Address: 4601 N Monroe, Spokane, WA 99205-1295 **Phone:** 509-329-3568

Date: January 17, 2006 **Signature** Flora J. Goldstein

WAC 197-11-960 Environmental checklist.

ENVIRONMENTAL CHECKLIST

Purpose of checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

MTCA Groundwater Remediation
Closed Cement Kiln Dust (CKD) Pile Site
Metaline Falls, Washington

2. Name of applicant:

Lehigh Cement Company

3. Address and phone number of applicant and contact person:

7660 Imperial Way
Allentown, PA 18195
(610) 530-5440

4. Date checklist prepared:

July **2005**

5. Agency requesting checklist:

Department of Ecology

6. Proposed timing or schedule (including phasing, if applicable):

Detailed design of the groundwater remediation system is expected to begin in the fall of 2005 following Ecology's finalization of the Cleanup Action Plan. Construction is anticipated in 2006 and will take approximately 5 months to complete. The system will operate indefinitely.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

No.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Characterization of the CKD, Biomed Research Laboratories, 1984

Hydrogeologic investigation and closure studies, Cemtech, Inc., 1990

Hydrogeologic investigation and groundwater plume evaluation, Dames & Moore, 1992

Preliminary Site Characterization Report, Dames & Moore, Inc., December 1992

Addendum Preliminary Site Characterization Report, Dames & Moore, Inc., 5 October 1993

Additional hydrogeologic investigation, geotechnical evaluation, and plume evaluation, Dames & Moore, 1993-1995

Draft Closure Plan for CKD Pile, submitted to Ecology, August 1994

Final Closure Plan for CKD Pile, submitted July 1995

On-going post closure monitoring of groundwater and general site conditions, Dames & Moore and GeoSyntec, 1996-2000

Groundwater Data Transmittals, Dames & Moore to Lehigh Portland Cement Co., 1997 & 1998

Aquatic resources assessment of Sullivan Creek, AIP and Associates, 1998

Groundwater Data Transmittals, GeoSyntec to Lehigh Portland Cement 1998

Interim Progress Report No. 1, Subsurface Treatability Study, GeoSyntec, 2000

In Situ Treatment Wall Design Drawings, GeoSyntec, 2001

Quarterly Project Status Reports to Department of Ecology, GeoSyntec, 2000, 2001, 2002, 2003, 2004, and 2005

Project Status Meetings, GeoSyntec, 2002, 2003, 2004, and 2005

Feasibility Study Technical Memorandum, GeoSyntec, May 22, 2003

In Situ Treatment Wall Construction Report, GeoSyntec, 2003

Draft Final Report, Remedial Investigation, Closed Cement Kiln Dust Pile, Metaline Falls, WA, October 5, 2000

Pilot Treatment Construction Report, submitted April 2003

Draft Feasibility Study Technical Report, Closed Cement Kiln Dust Pile, Metaline Falls, WA, November 12, 2003

Revised Draft Feasibility Study Technical Report, Closed Cement Kiln Dust Pile, Metaline Falls, WA, March 3, 2005

Lehigh Cement Company Closed CKD Pile, Metaline Falls, Wetland Determination Report, Adolfson Associates, Inc., July 2005.

Lehigh Cement Company Closed CKD Pile, Metaline Falls, Biological Evaluation, Adolfson Associates, Inc., In Progress.

Draft Cleanup Action Plan, January 2006.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

We do not know of other pending applications for governmental approvals of other proposals that would directly affect the Proposed Project. The Washington Department of Transportation is planning to make improvements to State Route 31 in the vicinity of the Proposed Project. WDOT may require access to Lehigh's property on or around the Proposed Project site to complete these improvements. However, the highway improvements are not expected to interfere with the groundwater remediation proposal discussed in this Checklist.

10. List any government approvals or permits that will be needed for your proposal, if known.

RCW 70.105D.090 exempts remedial actions conducted under a consent decree, order, or agreed order from the procedural requirements of RCW chapters 70.94 (air), 70.95 (solid waste), 70.105 (hazardous wastes), 75.20 (hydraulic permit), 90.48 (water quality), and 90.58 (shorelines), and from the procedural requirements of any laws requiring or authorizing local government permits of approvals. Ecology ensures compliance with the substantive requirements adopted pursuant to such laws, and consults state agencies and local governments charged with implementing these laws. Substantive requirements of state and local permits that must be complied with include:

- **Hydraulic Project Approval from the Department of Fish and Wildlife;**
- **shoreline permit from Pend Oreille County;**
- **floodplain development permit from Pend Oreille County; and**

- **building, clearing, and grading permits from Pend Oreille County.**

The Proposed Project is not exempt from Federal permit requirements and Lehigh will apply to the U.S. Army Corps of Engineers for a Section 404 permit and to Ecology for an NPDES/state waste discharge permit and Section 401 Water Quality Certification.

In addition, Ecology must finalize the Cleanup Action Plan.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The Proposed Project will remediate contaminated groundwater downgradient of the Closed CKD Pile in Metaline Falls.

Lehigh Cement Company (Lehigh) operated a Portland cement production plant in Metaline Falls, Washington, from the early 1900s until 1989. Cement Kiln Dust (CKD) was generated at the plant as a byproduct of the cement production process. During the period that the plant was in operation, Lehigh periodically moved the CKD from the production plant to the CKD Pile, which is between the former plant location and State Route 31 (Figure 1). To the east of State Route 31 is a floodplain that gently slopes toward Sullivan Creek, located about 250 to 300 feet east of State Route 31.

In 1996, Lehigh implemented an Ecology-approved Closure Plan by constructing a final cover on the surface of the approximately 7.5-acre CKD Pile to reduce surface water infiltration into the CKD and by constructing a stormwater management system to treat surface water runoff. Following completion of the Closure Plan, Lehigh implemented a program of on-going groundwater monitoring. The monitoring program indicated that leachate was emanating from the Closed CKD Pile and that the leachate was affecting groundwater beneath, and downgradient of, the Closed CKD Pile.

Downgradient of the Closed CKD Pile, groundwater is characterized by high pH, decreased oxidation reduction potential, and arsenic concentrations greater than 5 μg/L (or parts per billion [ppb]). Arsenic is not present in significant concentrations within the CKD. Surveys indicate that groundwater elevations fluctuate seasonally and that groundwater contacts the base of the Closed CKD Pile. In addition, some groundwater flows laterally into the buried sidewalls of the Closed CKD Pile and water is also trapped in the CKD matrix as a result of infiltration of precipitation that

occurred prior to Pile closure in 1996. Contact with CKD results in high pH in the groundwater. Under high pH conditions, groundwater dissolves naturally-occurring arsenic from the native soils. Groundwater with elevated pH and arsenic levels seeps into, and flows overland to (in a localized area), Sullivan Creek.

Lehigh's Proposed Project will treat contaminated groundwater downgradient of the Closed CKD Pile. Treatment will occur through the construction of an in situ treatment system that will intercept contaminated groundwater from the Closed CKD Pile and treat it prior to discharge to Sullivan Creek. Details of the in-situ treatment technology are described in the Revised Draft Feasibility Study Technical [GeoSyntec, 2005].
The groundwater remediation system consists of two primary components: a funnel-and-gate treatment system (FGT), and a gravity drain that will be constructed under the southern portion of the Closed CKD Pile (Figure 2). Construction of the Proposed Project will occur in the approximately 4 acres between the Closed CKD Pile and Sullivan Creek (Figure 1).

The FGT includes subterranean slurry walls installed downgradient of the Closed CKD Pile. The slurry walls will intercept the CKD-affected groundwater on the east side of State Route 31 and passively funnel the groundwater toward a central treatment zone where Lehigh will use an in situ technology to neutralize high pH and precipitate out arsenic in the groundwater. After treatment, the water will migrate through a subsurface discharge corridor and enter Sullivan Creek (Figure 3). Subterranean gravel walls (French drains) on the upgradient side of the slurry walls will convey groundwater along the slurry wall funnel to the treatment zone (Figure 3).

The second primary component of the groundwater remediation system is the gravity drain. A perforated drain pipe will be installed under the southernmost margins of the Closed CKD Pile using horizontal directional drilling techniques. The gravity drain is a source-control technology that will redirect unaffected groundwater away from the Closed CKD Pile so that it will not contact the CKD. The gravity drain will intercept groundwater moving northward toward the CKD and convey it to the southern tip of the south slurry wall (Figure 2) .Because the gravity drain intercepts water before it enters the Closed CKD Pile, water from the gravity drain should meet water quality criteria for discharge into Sullivan Creek without treatment. If testing of the gravity drain-intercepted water indicates that treatment is necessary, the design will include the flexibility to convey the water to the treatment zone, if needed.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street

address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The Proposed Project site is in Metaline Falls, Washington at approximately milepost 14.7 along State Route 31, in SE 1/4 Sec. 21, T. 39N, R. 43E. The groundwater remediation system will be installed on property just north and east of the Closed CKD Pile, located between State Route 31 and Sullivan Creek. In addition, the gravity drain will be installed beneath the southernmost portion of the Closed CKD Pile. Lehigh owns all of the land on which the Proposed Project will be constructed and operated. Figure 2 shows the approximate layout of the proposed groundwater remediation system.

B. ENVIRONMENTAL ELEMENTS (note for text file version: in this version, the column on the right side of the form for lead agency review is missing. The column headings should read "TO BE COMPLETED BY APPLICANT" for the text on the left side of the page and "EVALUATION FOR AGENCY USE ONLY" for a blank column on the right side of the page.)

1. Earth.

a. General description of the site (circle one): **Flat**, rolling, hilly, steep slopes, mountainous, other _____.

The area where the groundwater remediation system will be constructed is generally flat. The Closed CKD Pile rises approximately 90 feet above State Route 31 to a gently-sloping upper deck (Figure 1).

b. What is the steepest slope on the site (approximate percent slope)?

As stated in the answer to the previous question, The Proposed Project construction area is relatively flat, with an increase in slope to approximately 1H:1V (Horizontal to Vertical) on the banks of Sullivan Creek.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

There are three geologic strata at the Proposed Project site. Bedrock is the deepest stratum. Overlying the bedrock are glacial sediments that consist of sandy silt and clayey silt. Finally, Sullivan Creek eroded a bowl

(the Holocene Alluvium) into the glacial sediments, which is the third stratum. The Holocene Alluvium includes gravels with occasional cobbles and boulders and interspersed zones of more clayey, silty, and sandy materials. According to the Soil Survey of Pend Oreille County, soils at this site are Martella silt loam and Sacheen variant silt loam.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

A historic landslide occurred in glacial sediments to the south of and upgradient from the Closed CKD Pile, approximately 600 feet from the construction area (Figure 1). The landslide is described in the June 1997 Closure Report. The area where the groundwater remediation system will be constructed is relatively flat and is not expected to be susceptible to landslides.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

Slurry wall construction necessary to construct the FGT will require an earthen working platform to be constructed along the slurry wall alignment. Approximately 5,000 cubic yards of compactable soils will form the platform. Construction of the slurry walls will require the excavation of approximately 1,200 cubic yards of trenches, followed initially by backfill with biodegradable slurry to hold open the trench, and finally by a soil-slurry mixture that will cure into an impermeable groundwater cut-off wall. The upper few feet of the slurry walls will be capped with clay to limit stormwater infiltration and to provide a physical barrier to accessing the slurry. Upgradient of the slurry walls a subterranean gravel drain (French drain) will be constructed to convey the intercepted groundwater to the central treatment zone. Construction of the gravel drain will require the excavation of approximately 1,100 cubic yards of soil, followed by backfill with coarse gravel. Construction of the central treatment zone will involve the excavation of approximately 10,000 cubic yards of native material. This area will also be backfilled with coarse gravel. With the exception of the slurry mixtures, which will be specially designed for our purposes, the gravel backfill materials are expected to come from a commercially obtained local source.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

The Proposed Project will require excavation, clearing, and grading within an approximately 4-acre area east of State Route 31, between the Closed CKD Pile and Sullivan Creek (Figure 2). In addition, the Proposed Project will result in the clearing of approximately 75 linear feet of vegetation along

Sullivan Creek for construction of the central treatment zone and discharge corridor (Figure 2). Erosion and sedimentation could occur during construction if not properly controlled. Construction activities will be subject to the provisions of an NPDES permit and Lehigh will implement best management practices to control and limit erosion and sedimentation during construction as described in Section B(1)(h). To avoid streambank erosion following construction, Lehigh will reinforce the outlet of the discharge corridor with rip rap (Figure 3).

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

The Closed CKD Pile was covered with an engineered vegetated low-permeability cap during closure in 1996. The cap covers roughly 7.5 acres of the 11.5-acre Proposed Project site, or approximately 65% of the total land area at the site. A small amount of impervious surface (approximately 900 square feet) will be added to the Proposed Project site as a result of expanding the existing structure. With this addition, approximately 0.2% of additional Proposed Project site surface will be covered with impervious surface.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

An erosion control plan will be developed for construction. The plan will include standard erosion control measures including, but not limited to, use of silt curtains and hay bales to slow and/or filter runoff. In addition, excavations will be left open for the shortest time possible. Soil stockpiles will be covered during periods of precipitation. The erosion protection that is immediately adjacent to Sullivan Creek will be installed during the summer season, when water levels are expected to be low. This will reduce the potential for sediment releases to the creek. Additional measures may include silt fencing, diversion berms, and hay bales, as appropriate.

Excavation equipment will operate landward of the Sullivan Creek ordinary high water mark. Soil will be pulled away from Sullivan Creek, toward the excavation equipment, during construction of the zone of the gravel corridor where it emerges at the Sullivan Creek banks. Measures such as those described previously will be taken to control erosion and turbidity during these activities. An in-water sediment containment boom may be used if construction activities resulted in turbidity levels that exceed state standards.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Construction activities will generate on-site dust and emissions from earthmoving equipment operation and workers' vehicles. These emissions are expected to be temporary, minor, and largely confined to the Proposed Project site.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

None known

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Dust generation during construction will be controlled by wetting exposed surfaces, and other typical dust-suppression techniques.

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Sullivan Creek flows in a northerly direction just east of the Proposed Project site, approximately 300 feet from the toe of the Closed CKD Pile. Sullivan Creek is a tributary to the Pend Oreille River, which is located about 0.5 miles downstream from the Proposed Project site. A small (0.07-acre) palustrine emergent wetland is located on the site in proximity to the location of the FGT (Figure 2). The wetland has been delineated and rated pursuant to federal, state, and local requirements. The wetland is rated a Category IV wetland.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Yes. Most of the FGT will be constructed within 200 feet of Sullivan Creek. In addition, the discharge corridor for the FGT will extend to the bank of Sullivan Creek. Figure 2 shows a layout of the proposed groundwater remediation system, and Figure 3 shows additional details for

the construction area near Sullivan Creek and the adjacent, disturbed Category IV wetlands. The conceptual design of the groundwater remediation system is described in the Revised Feasibility Study Technical Report.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

The gravel corridor will passively discharge to Sullivan Creek through a spillway-type structure on the western bank of the stream (Figure 2). Up to approximately 500 cubic yards of erosion protection material (riprap) will be placed waterward of the ordinary high water mark (See Figure 3). The riprap armoring will be designed to be consistent with the Washington State Department of Fish and Wildlife's Integrated Streambank Protection Guidelines [WDFW, 2003]. Construction of the FGT will result in the placement of fill materials within the adjacent 0.07-acre Category IV wetland.

With the exception of the slurry mixtures, which will be specially designed for the project based on operational requirements, the gravel backfill materials are expected to come from a commercially obtained local source.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No surface water withdrawals or diversions will occur as a result of the long-term operation of the Proposed Project. Because a portion of the construction of the FGT discharge corridor will occur below and waterward of the ordinary high water mark of Sullivan Creek, erosion control methods will be used, as needed, to meet Washington surface water standards.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

A large portion of the proposed project lies within the 100-year floodplain.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

Yes, the Cleanup Action Plan selects the groundwater remediation system, which was described previously. The selected groundwater remediation system will result in approximately 50,000 to 150,000 gallons per day of treated groundwater being discharged to Sullivan Creek.

Discharges from the remediation system are expected to meet NPDES permit limits.

b. Ground:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

Following treatment, groundwater will be discharged through a subsurface discharge corridor that empties into Sullivan Creek. This system and its purpose are described above in response to Question A.11. The quantities are discussed above in response to Question B.6.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals_____ ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

None.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

The closure of the CKD Pile in 1996 included installation of a geosynthetic and soil cover, and drainage and surface water management systems constructed on top of and adjacent to the CKD Pile. Runoff collected in this system is initially routed to a sedimentation basin for eventual discharge to Sullivan Creek (Figure 2).

No additional stormwater facilities will be constructed as part of the Proposed Project.

Stormwater that falls on the land between State Route 31 and Sullivan Creek either infiltrates into the ground or flows into the stream via overland flow.

2) Could waste materials enter ground or surface waters? If so, generally describe.

No. Stormwater runoff will not come in contact with any waste materials (including any industrial materials or activities) at the Proposed Project site. All chemicals used on-site will be stored inside the building.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

The treatment of groundwater will reduce the arsenic level and lower the pH level such that the water meets NPDES permit limits prior to discharge to Sullivan Creek.

4. Plants

a. Check or circle types of vegetation found on the site:
deciduous tree: **alder**, **maple**, aspen, **other**
evergreen tree: **fir**, **cedar**, pine, **other**
shrubs
grass
pasture
crop or grain
wet soil plants: cattail, buttercup, bullrush, skunk cabbage, **other**
water plants: water lily, eelgrass, milfoil, other
other types of vegetation

Typical upland vegetation includes paper birch, Douglas fir, beaked hazelnut, snowberry, and Oregon grape.

b. What kind and amount of vegetation will be removed or altered?

Most of the area affected by construction of the FGT is currently graveled; however, some areas of native vegetation, emergent wetland, and native upland forest will be removed or altered during construction. In addition, construction will affect vegetated areas around the existing building. Approximately 0.7 acres of currently vegetative areas will be cleared for construction of the FGT. The vegetation beyond the limits of the engineered structures of the FGT facility that is disturbed during construction will be restored and these areas will be allowed to re-vegetate (See Section 4(d)).

c. List threatened or endangered species known to be on or near the site.

The State Department of Natural Resources does not identify any known populations of state or federally listed threatened or endangered plant species occurring or in proximity to the project site. The USFWS has identified that one federally listed plant species, the Ute ladies'-tresses, may occupy habitats that are common in Pend Oreille County, although

there is no documented occurrence of Ute ladies'-tresses in Pend Oreille County (WDNR, 2005; NatureServe Explorer, 2005).

Common Name	Scientific Name	ESA Status	Jurisdiction
Ute ladies'-tresses	***Spiranthes diluvialis***	**Threatened**	**USFWS**

Ute ladies'-tresses occupies undisturbed wetland and riparian habitats. In general, the species may occur in broad intermontane valley plains. Although Pend Oreille County may provide areas that could support populations of Ute Ladies'-tresses, the current distribution in Washington includes three of the four known sites occurring along the Columbia River in Chelan and Okanogan Counties. No Ute ladies'-tresses were observed on the subject site and the site does not appear to support the very specific hydrologic regime necessary for the survival of this rare plant. The project will have no impact on Ute ladies'-tresses.

Washington Department of Natural Resources, Washington Natural Heritage Program (WNHP). http://www.dnr.wa.gov/nhp/refdesk/fguides.html (Accessed: July 25, 2004).

NatureServe. 2005. NatureServe Explorer: An online encyclopedia of life [web application]. Version 4.5. NatureServe, Arlington, Virginia. Available http://www.natureserve.org/explorer. (Accessed: July 26, 2005).

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

The Proposed Project will include the enhancement of approximately 0.7 acres of existing degraded habitat along the western bank of Sullivan Creek. Enhancement will include the removal of trash, junk, and other man-made materials from along the stream bank. The enhancement may also include revegetation with woody tree and shrub species in areas that are currently unvegetated or that are only vegetated with grass, and underplanting areas with coniferous species that are currently dominated by deciduous shrubs or deciduous forest.

5. Animals

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

birds: **hawk**, heron, **eagle**, **songbirds**, **other**:
mammals: **deer**, **bear**, **elk**, **beaver**, other:
fish: bass, salmon, **trout**, herring, shellfish, **other**:

WDFW PHS database (2005) does not identify any Priority Habitats Species polygons or Wildlife Heritage Points on or adjacent to the Proposed Project; however, WDFW does identify that the general vicinity is known to contain regular concentrations of Rocky Mountain elk, mountain goat, and waterfowl. In addition, WDFW maps several Wildlife Heritage Points within one mile of the Proposed Project site. Mapped natural heritage points include observed occurrences of individual great grey owl, Canada lynx, common loon, and slimy sculpin. Breeding occurrences (nest sites) for bald eagle and osprey also occur in the general vicinity of the Proposed Project.

The closest bald eagle nest is located approximately 1.3 miles southwest of the project along the mainstem Pend Oreille River (WDFW Priority Habitats and Species Database, 2005). No specific perching or roosting trees have been identified in the project vicinity. Bald eagles could potentially forage within the Sullivan Creek system; however, they are more likely to forage along the mainstem Pend Oreille River to the west of the project. General noise and disturbance would occur during construction, but no highly disturbing activities are expected to be required. Since, there are ample foraging opportunities along the mainstem Pend Oreille River and since no documented nest sites, perches, or roosts have been identified within 1.0-mile of the project, the likelihood of impacts to eagles are anticipated to be discountable.

b. List any threatened or endangered species known to be on or near the site.

There are several ESA listed species that may occur in Pend Oreille County. Much of county is undeveloped forest or rangeland. The USFWS identifies that six different ESA-listed species may occur in the vicinity of the project. Of these six species, three have been documented as occurring in proximity to the project site by WDFW (2005), although no documented occurrence of these species on or adjacent to where work will occur. These species include grizzly bear, Canada lynx, and bald eagle. A forth species, bull trout, may have historically been present in Sullivan Creek, but a population of bull trout are not known to be present in the watershed (Andonagui, 2003). The USFWS has designated Sullivan Creek as Critical Habitat for bull trout. Andonagui (2003) reports that bull trout may have historically occurred in the Pend Oreille River, however, viable populations of bull trout are thought to be extirpated from the Pend Oreille River and its tributaries between Albeni Falls dam in Idaho and Boundary dam in Washington. Surveys conducted in the Sullivan Creek watershed have not identified any reproducing populations of bull trout in Sullivan Creek There have been only 33 documented observations of bull trout between Albeni Falls and Boundary dams since 1975. There have been no confirmed observations of live bull trout in Sullivan Creek. A dead bull trout was observed along the bank of the stream at river mile 0.65

(upstream from the project site) in 1993; however, subsequent snorkel surveys in the vicinity were not able to find other occurrences. Any occurrence of bull trout in Sullivan Creek would be extremely rare and the Proposed Project is not likely to result in adverse affects to bull trout. Bull trout, if present, are anticipated to benefit from the potential water quality benefits of the Proposed Project.

Common Name	Scientific Name	ESA Status	Jurisdiction
Canada Lynx	*Lynx Canadensis*	Threatened	USFWS
Bull trout	*Salvelinus confluentus*	Threatened	USFWS
Bald eagle	*Haliaeetus leucocephalus*	Threatened	USFWS
Grizzly Bear	*Ursus arctos horribilis*	Threatened	USFWS

The project site is a heavily disturbed industrial property in close proximity to the Town of Metaline Falls. Although ESA-listed species may be present in the forest and rangelands around the town, occurrence of these species on the actual site of the proposed facility where work would occur is not likely.

Andonagui, C. 2003. *Bull Trout Habitat Limiting Factors Report for Water Resource Inventory Area (WRIA) 62 (Pend Oreille County, Northeast Washington State).* Washington State Conservation Commission. Olympia, Washington.

Washington Department of Fish and Wildlife. 2005. Priority Habitats and Species Database. Washington Department of Fish and Wildlife. Olympia, Washington

c. Is the site part of a migration route? If so, explain.

The Proposed Project area has been heavily disturbed. The site is located adjacent to State Route 31. The site itself has not been identified as part of a migration route for any state priority wildlife species. Sullivan Creek has been identified as a migration corridor for state listed priority fish species that may use the stream for spawning or rearing.

d. Proposed measures to preserve or enhance wildlife, if any:

One purpose of the Proposed Project is to protect the waters of Sullivan Creek, which will enhance the fish habitat in the stream. Work below the ordinary high water mark in Sullivan Creek will only occur during allowed in-water work windows as identified by WDFW, the Corps of Engineers, and USFWS.

6. Energy and natural resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Electricity will be used to operate the treatment facility.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Does not apply.

7. Environmental health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

During construction, workers may be exposed to high pH water. This risk will be managed through good construction safety practices. In addition, carbon dioxide will be used to treat the groundwater. Carbon dioxide used in the treatment process will be stored indoors in the adjacent storage building. Carbon dioxide is currently stored on-site in the existing storage building for use for on-going pilot treatment facility. The existing building will be expanded to allow for additional carbon dioxide storage for use in the permanent groundwater remediation system.

1) Describe special emergency services that might be required.

We do not anticipate that any special emergency services will be required during construction or operation of the Proposed Project

2) Proposed measures to reduce or control environmental health hazards, if any:

One of the overall goals of the Proposed Project is to reduce environmental health hazards from the CKD-affected groundwater. Carbon dioxide was chosen as the precipitating agent for arsenic in part because it presents few health hazards.

Health and safety plans will be prepared for use during construction of the groundwater remediation system. Worker and public safety protection

measures will be performed during construction where workers may be exposed to CKD-affected water and where construction activities may disturb public areas (e.g., transportation on public streets).

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Existing sources of noise or disturbance that occur in the vicinity of the project will not affect the construction or operation of the Proposed Project.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Noise levels during construction will be those commonly associated with heavy equipment operation. Once the groundwater remediation system is operational, the noise level will be minimal.

3) Proposed measures to reduce or control noise impacts, if any:

None necessary.

8. Land and shoreline use

a. What is the current use of the site and adjacent properties?

The site is currently used for maintenance of the Closed CKD Pile, and for maintenance and operation of a pilot Permeable Treatment Wall. In addition, a building at the site is rented for use as a mechanical repair shop. Adjacent properties have the following uses:

- **South – Closed CKD Pile, then vacant forested land**
- **Southwest – Closed CKD Pile, then a quarry road for access to residences in the mountains and for accessing an existing quarry**
- **West - Town of Metaline Falls visitor center and residences**
- **Northwest - strip of land owned by the Town of Metaline Falls, not used**
- **North/northeast - Sullivan Creek**
- **Southeast/South - open area adjacent to Sullivan Creek that will be used by WDOT for State Route 31 expansion**

b. Has the site been used for agriculture? If so, describe.

Not to our knowledge.

c. Describe any structures on the site.

There is one structure on-site, a two-story building formerly used as a residence and currently used as a mechanical repair shop.

d. Will any structures be demolished? If so, what?

No.

e. What is the current zoning classification of the site?

The Proposed Project site is not zoned.

f. What is the current comprehensive plan designation of the site?

Pend Oreille County has not adopted a comprehensive plan.

g. If applicable, what is the current shoreline master program designation of the site?

Conservancy Environment.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

The location of the proposed FGT is adjacent to Sullivan Creek. The site contains a small (0.07 acre) degraded Category IV wetland (Figure 2). Areas within 200 feet of Sullivan Creek are within Shoreline Management Act jurisdiction. This reach of shoreline has been designated "Conservancy Environment" and Sullivan Creek is known to contain both state priority species and species listed under the federal ESA (bull trout).

i. Approximately how many people would reside or work in the completed project?

No one would reside at the completed project. The remediation system will be monitored remotely, and workers (1-2 at a time) will be on-site only about an average of 4 to 10 hours per week.

j. Approximately how many people would the completed project displace?

None.

k. Proposed measures to avoid or reduce displacement impacts, if any:

Does not apply.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

None required.

9. Housing

Does not apply.

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

c. Proposed measures to reduce or control housing impacts, if any:

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The only proposed structural change will be an approximately 1,200 square foot expansion of the existing on-site building to house equipment used to operate the groundwater remediation system.

b. What views in the immediate vicinity would be altered or obstructed?

None.

c. Proposed measures to reduce or control aesthetic impacts, if any:

None required.

11. Light and glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

The Proposed Project will not require additional lighting. The Proposed Project will operate continuously.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No.

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light and glare impacts, if any:

None required.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Fishing in Sullivan Creek.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None required.

13. Historic and cultural preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

None known. . The existing on-site metal building does not appear eligible for listing on national or state registers.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

None known to occur on or next to the Proposed Project site.

c. Proposed measures to reduce or control impacts, if any:

None required.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

State Route 31 serves the Proposed Project site. No city streets will be used for access.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No.

c. How many parking spaces would the completed project have? How many would the project eliminate?

None.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

No.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

No one will reside or be located at the completed project. The remediation system will be monitored remotely, and workers (1-2 at a time) will be on-site occasionally.

g. Proposed measures to reduce or control transportation impacts, if any:

None.

15. Public services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None.

16. Utilities

a. Circle utilities currently available at the site: **electricity**, natural gas, **water**, refuse service, **telephone**, sanitary sewer, **septic system**, other.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Does not apply. No additional utilities will be required and no changes in service for existing utilities are expected as a result of the proposed project.

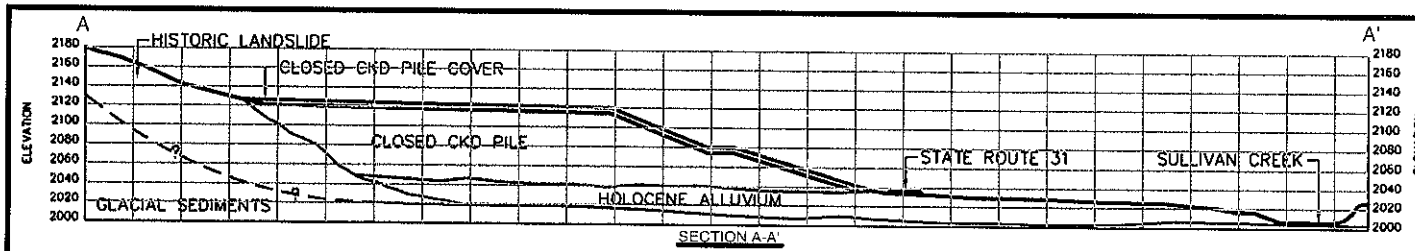
C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

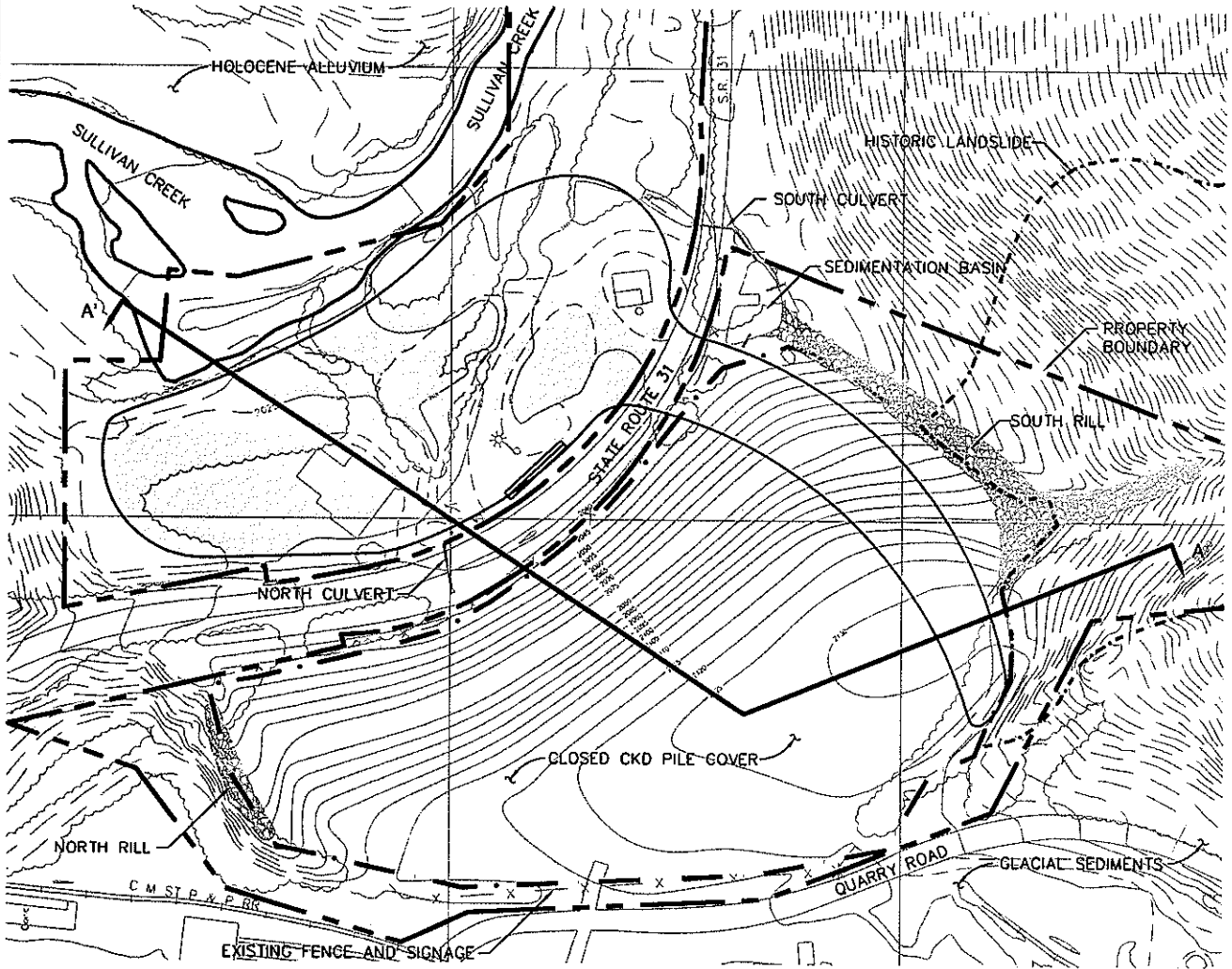
Elizabeth H. Mikol

Signature: Elizabeth H. Mikols
Manager Public Affairs

Date Submitted: October 19, 2005

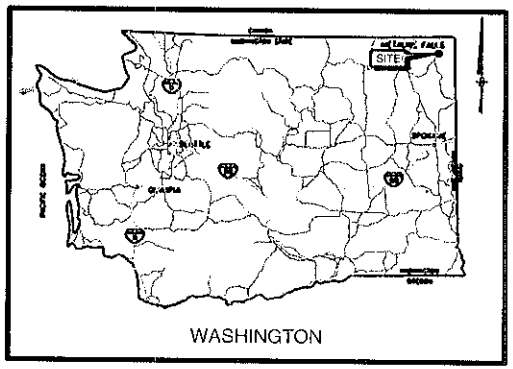


SECTION A-A'



LEGEND

- CLOSED CKD PILE (EXTENTS)
- PILOT SYSTEM
- EXISTING FENCE AND SIGNAGE
- PROPERTY BOUNDARY
- CONSTRUCTION AREA – PROPOSED MTCA GROUNDWATER REMEDIATION PROJECT
- ORDINARY HIGH WATER MARK



LOCATION MAP

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SCALE IN FEET

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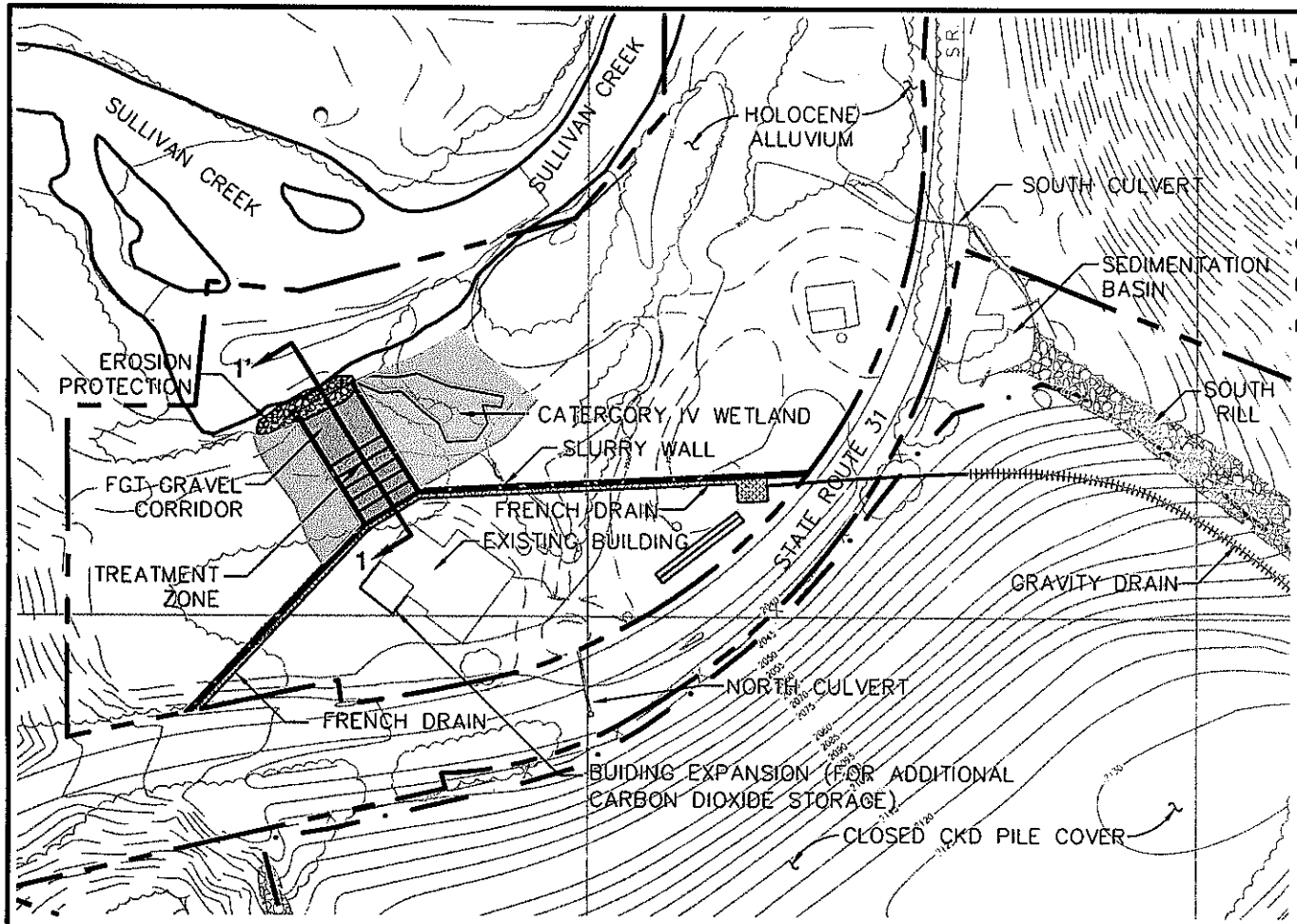
GeoSyntec Consultants

SITE LOCATION AND CURRENT LAYOUT
LEHIGH CEMENT COMPANY CLOSED CKD PILE
METALINE FALLS, WASHINGTON

FIGURE NO.	1
PROJECT NO.	HR0196-12
DATE:	JULY 2005



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NOTE: THE LAYOUT SHOWN ON THIS EXHIBIT IS PRELIMINARY. THE ACTUAL REMEDY LAYOUT, LOCATION, EXTENT, AND DESIGN DETAILS WILL BE PREPARED AND OUTLINED IN THE CLEAN-UP ACTION PLAN AND FINAL DESIGN DOCUMENTS. ACCORDINGLY, THE LOCATION, LAYOUT AND DETAILS OF REMEDY COMPONENTS AS SHOWN HERE MAY VARY.

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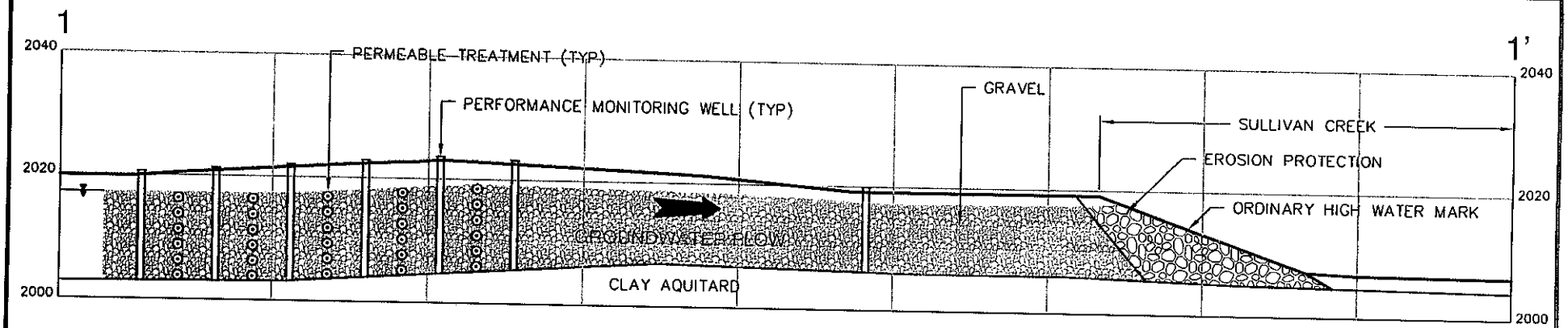
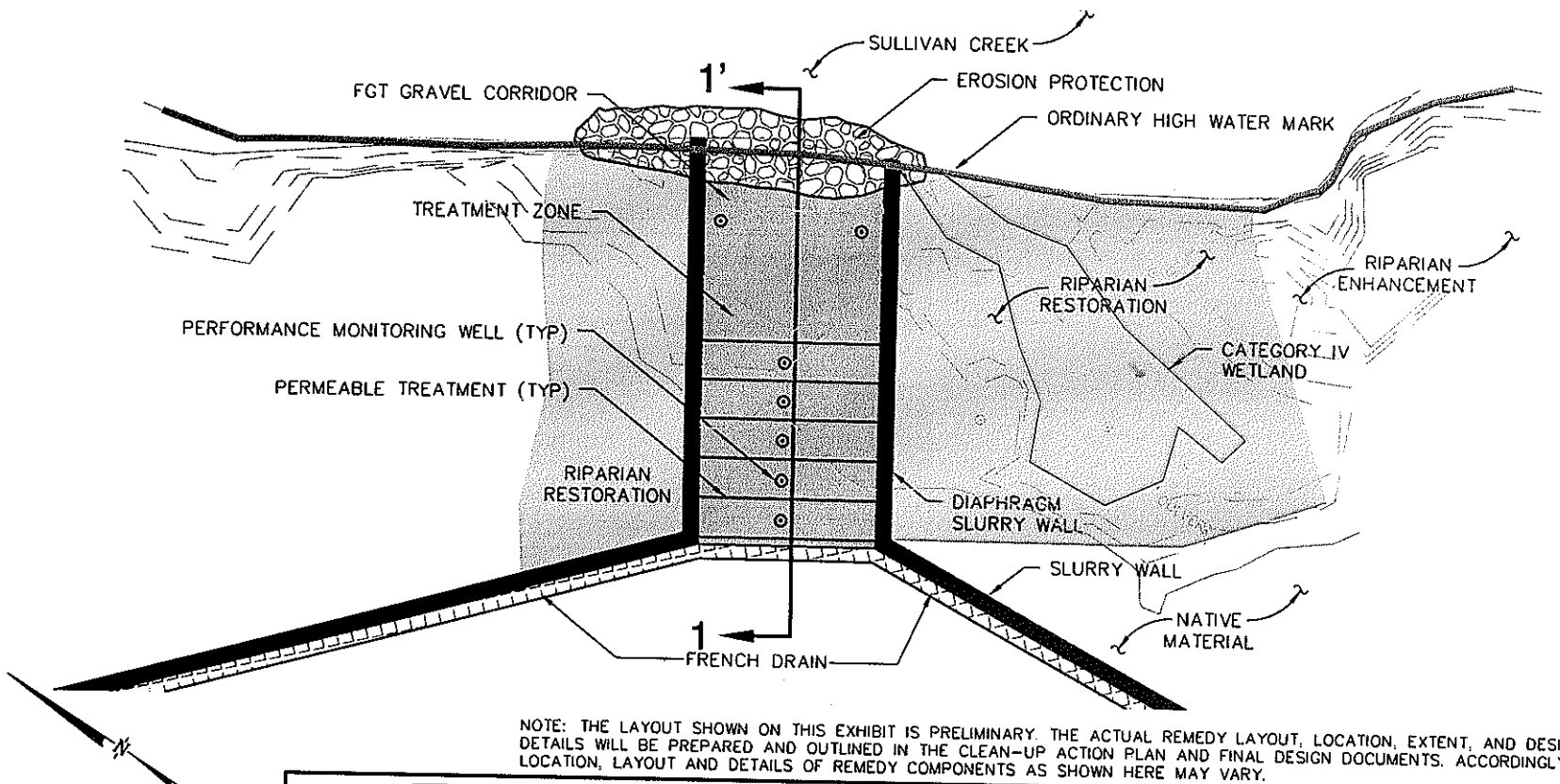
SCALE IN FEET

GeoSyntec Consultants

PRELIMINARY PROPOSED CONSTRUCTION LAYOUT AND CROSS SECTION LOCATION MAP
LEHIGH CEMENT COMPANY CLOSED CKD PILE
METALINE FALLS, WASHINGTON

FIGURE NO.	2
PROJECT NO.	HR0196-12
DATE:	OCTOBER 2005





NOTE: THE LAYOUT SHOWN ON THIS EXHIBIT IS PRELIMINARY. THE ACTUAL REMEDY LAYOUT, LOCATION, EXTENT, AND DESIGN DETAILS WILL BE PREPARED AND OUTLINED IN THE CLEAN-UP ACTION PLAN AND FINAL DESIGN DOCUMENTS. ACCORDINGLY, THE LOCATION, LAYOUT AND DETAILS OF REMEDY COMPONENTS AS SHOWN HERE MAY VARY.

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SCALE IN FEET

GeoSyntec Consultants

PRELIMINARY DISCHARGE CORRIDOR DETAILS
LEHIGH CEMENT COMPANY CLOSED CKD PILE
METALINE FALLS, WASHINGTON

FIGURE NO.	3
PROJECT NO.	HR0196-12
DATE:	OCTOBER 2005

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